In the claims:

1. (original) A secure communication system comprising:

a plurality of geographic cells, each cell being associated with a specific geographic area and having a cell cryptographic key for secure communications with devices located within the cell; and

a key management center that determines an anticipated cell path of a mobile device from a current cell to a destination cell and distributes to the mobile device a set of cryptographic keys necessary to permit secure communications for the mobile device within each cell along the anticipated cell path.

2. (original) A system according to claim 1, further comprising:

a hierarchical tree having a root node, a plurality of internal nodes, and a plurality of terminal leaf nodes, the root node and each internal node having an associated node cryptographic key for secure communication with lower nodes in the tree, each leaf node being associated with a specific geographic cell.

3. (original) A system according to claim 2, wherein the cryptographic key of each node below the root node is derived by applying a mathematical function to the cryptographic key of the next higher level node.

4. (original) A system according to claim 2 wherein the mobile device knows the cryptographic key of each node in the tree on a direct path back to the root node.

5. (original) A system according to claim 2, wherein at least one hierarchical level of the tree uses a structure of at least three dimensions to connect to nodes in the next lower hierarchical level.

6. (original) A system according to claim 1, wherein the set of cryptographic keys distributed to the mobile device includes keys that are valid for a restricted period of time based on the anticipated cell path.

7. (original) A system according to claim 1, wherein the set of cryptographic keys contains the minimum number of keys necessary to permit secure communications for the mobile device within each cell along the anticipated cell path, but no other cells.

8. (original) A method of secure communication comprising:

providing a plurality of geographic cells, each cell being associated with a specific geographic area and having a cell cryptographic key for secure communications with devices located within the cell;

determining an anticipated cell path of a mobile device from a current cell to a destination cell; and distributing to the mobile device a set of cryptographic keys necessary to permit secure communications for the mobile device within each cell along the anticipated cell path.

9. (original) A method according to claim 8, further comprising:

arranging a hierarchical tree having a root node, a plurality of internal nodes, and a plurality of terminal leaf nodes, the root node and each internal node having an associated node cryptographic key for secure communication with lower nodes in the tree, each leaf node being associated with a specific geographic cell.

10. (original) A method according to claim 9, wherein the cryptographic key of each node below the root node is derived by applying a mathematical function to the cryptographic key of the next higher level node.

11. (original) A method according to claim 9, wherein the mobile device knows the cryptographic key of each node in the tree on a direct path back to the root node.

12. (original) A method according to claim 9, wherein at least one hierarchical level of the tree uses a structure of at least three dimensions to connect to nodes in the next lower hierarchical level.

13. (original) A method according to claim 8, wherein the set of cryptographic keys distributed to the mobile device includes keys that are valid for a restricted period of time based on the anticipated cell path.

14. (original) A method according to claim 8, wherein the set of cryptographic keys contains the minimum number of keys necessary to permit secure communications for the mobile device within each cell along the anticipated cell path, but no other cells.

15. (original) A computer program product for use on a computer system for secure communication in a computer network, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code comprising:

program code for providing a plurality of geographic cells, each cell being associated with a specific geographic area and having a cell cryptographic key for secure communications with devices located within the cell;

program code for determining an anticipated cell path of a mobile device from a current cell to a destination cell; and

program code for distributing to the mobile device a set of cryptographic keys necessary to permit secure communications with the mobile device within each cell along the anticipated cell path.

16. (original) A computer program product according to claim 15, further comprising:

program code for arranging a hierarchical tree having a root node, a plurality of internal nodes, and a plurality of terminal leaf nodes, the root node and each internal node in the tree having an associated node cryptographic key for secure communication with lower nodes in the tree, each leaf node being associated with a specific geographic cell.

17. (original) A computer program product according to claim 16,

wherein at least one hierarchical level of the tree uses a structure of at least three dimensions to connect to nodes in the next lower hierarchical level.

18. (original) A computer program product according to claim 17,

wherein the at least one hierarchical level is the level in the tree immediately above the leaf nodes.

19. (original) A computer program product according to claim 15,

wherein the set of cryptographic keys distributed to the mobile device includes keys that are valid for a restricted period of time based on the anticipated cell path.

20. (original) A computer program product according to claim 15,

wherein the set of cryptographic keys contains the minimum number of keys necessary to permit secure communications for the mobile device within each cell along the anticipated cell path, but no other cells.